Exhibit C

PaineWebber EDGE Trading

Release 1.0 Functional Specification

Document Version 1.3

November 2, 1998

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1 Introduction

The purpose of this document is to define the functionality of the pages that will constitute Release 1.0 of online trading via the PaineWebber EDGE Internet site. These pages and their requirements are also important for the work required on the backend of the service where the trade moves from the Internet into PaineWebber for processing.

Reality Online Inc. is a wholly owned subsidiary of Reuters and is in the business of creating Internet online trading sites for brokerage firms and leveraging Reuters news and financial data to add value to those sites. Reality has been working closely with PaineWebber over the last two years to define, develop and deploy the EDGE.

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1.3. Document Revision History

Release 1.0. October 6, 1998 - Preliminary Draft for review.

Release 1.1 October 19, 1998 – Secondary release for review. Converted trading matrices to Valid Trade tables, added Error Messages section, included additional content in the Edit section, general cleanup.

Release 1.2 October 28, 1998 – Third release. Added edits as per PaineWebber request (Section 5 of R. Kodey email dated October 20, 1998. Modify/Cancel Order section designed and added (Page 59). Added Help page screen shot (Figure 43 - Help Page). Added Delayed Quote screen shot (Figure 7 - Delayed Quote Page).

Release 1.3 November 2, 1998 – Replace screenshots of Stock Trading pages, Stock Wizard pages, Cancel & Replace recap page.

2. Project Requirements

The feature set and issues listed below are Reality's understanding of the requirements for the project release 1.0.

- 1. Audience. Access to EDGE Trading1 will be restricted to those clients that have a PAA account2 and access to the EDGE. The audience may be widened in the future.
- 2. Access. If the user has an EDGE account and a PAA account and they're enrolled for online trading, then the EDGE Trading link will appear on the navigation bar. This is the only navigation method to get to the EDGE Trading feature. PaineWebber has also requested the ability to add and remove the Demo trade links from the navigation bar so those non-online trading users can view the trading feature.
- 3. Accounts. The user will be able to trade through their cash and/or margin accounts.
- 4. Securities. The user will be able to buy and sell stocks in Release 1.0 of EDGE trading, with mutual funds included in Release 1.1. Important: This document shows the screen designs for Version 1.1.
- 5. No Short Sales. At least for Release 1.0.
- 6. No options trading. At least for Release 1.0.
- 7. PAA account holders are granted a certain number of trades that they may execute via the EDGE. The number of trades they receive depends on their asset level. PAA is a fee-based account and thus a PAA client is not charged for a number of trades, which varies by asset level.
- 8. Trades made without PAA credits are not free. The amount to be charged is a policy to be set by PaineWebber. If a PAA customer runs out of trade credits then they are charged for the trades above the limit.
- 9. Cancel. The user will be able to cancel perform a cancel, partial cancel, or cancel/replace.
- 10. Ease of use is key. The design presented in this document goes to great lengths to make the site easy to use. Step-by-step "wizards" are presented to make it easy to learn. Also included will be online help and demo trades.
- 11. EDGE Trading has the same look and feel as the other features of the EDGE.
- 12. All software will be Y2K compliant.3
- 13. An EDGE trading account can be associated with more than one EDGE registration ID, however only one ID can access the account at a time. In other words, two people can't trade simultaneously in the same online account.
- 14. Listed Equity Symbols, for purposes of Trading, are symbols of 3 or less characters. Symbols containing more than 3 characters will be considered OTC Equities.

¹ EDGE Trading is the working title for the feature and is used throughout this document rather than online trading.

² Premier Asset Account.

³ Year 2000 compliant.

2 EDGE Trading Release 1

2.1 Trading Section Structure

2.2 Structure Diagram

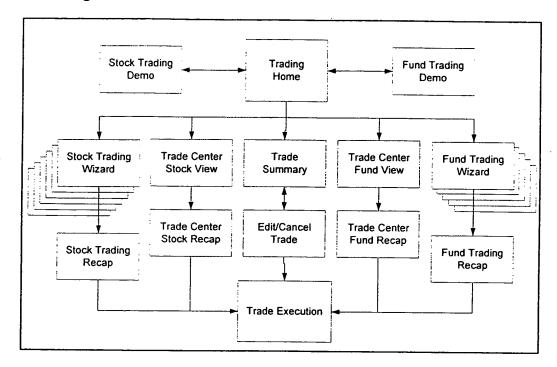


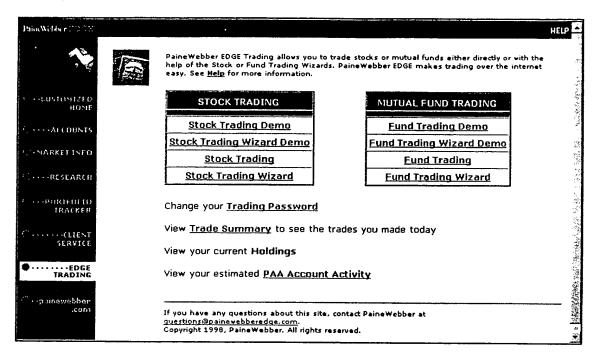
Figure 1 –Structure Diagram

2.3 Trading Pages Summary

- 1. Trading Home. The user sees when they enter the EDGE Trading section.
- 2. Trade Summary. This section shows the trades performed today and open orders.
- Stock Trading Wizard. This section divides the trading process into six steps and shows them one at a time. Intended for new users.
- Mutual Fund Wizard. Five pages, as per the stock wizard above.
- 5. Trading Demo Pages. For both stock and fund trading.
- Trade Execution. This is the passage of the trade from the EDGE front-end to the PaineWebber backend systems for processing. It returns a message to the user about what happened with the trade.4

⁴ This is not the legal confirm. The legal confirmation will be mailed as always.

2.4 Sample Page



□ Figure 2 -Sample Page

This page shows a typical page of the EDGE trading section, in this case, the Stock Trading view. The user will be required to scroll the page when using a small monitor.⁵ This first figure shows the Trading area of the Edge within the Edge framed environment. All further figures will show only the trading frame.

2.4.1 Page Elements

Tabs. To make a fund trade, the user simply clicks on the Fund Trading "tab" to bring it forward (as shown on page 35).

Disclaimer copy. At the bottom of the page is a brief copyright notice and link to Help via email.

Drop-down lists are shown like the one below; they provide the user choices.

Select Account: ZK 34313

Radio buttons are used to show either/or choices, with the default shown blacked out.6

Transaction: 🖲 Buy 💆 Sell

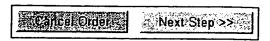
Entry fields are of varying widths. Text entry into such a field can scroll to the right so the user can enter in more text than can appear at once.

⁵ Vertical scrolling will be minimized as much and possible and horizontal scrolling will not be required ever.

⁶ The defaults shown in this document are not final.

Shares:	
0	

Buttons will appear using the standard button appearance for Windows as shown below.⁷



2.4.2

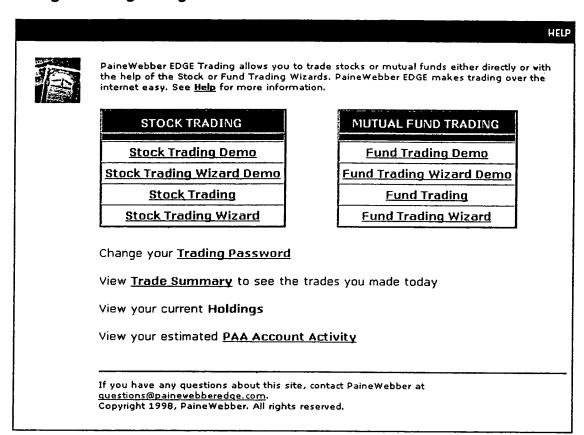
Art Direction Issues

EDGE Trading has been designed to follow the graphic conventions and text standards set for the other parts of the EDGE 2.0 site.

3 Trading Home Page

The Trading Home Page is the page that appears when the user clicks the EDGE Trading link on the navigation bar. The purpose of the page is to provide a table of contents to the trading features and to let the user navigate to those features.⁸

3.1 Trading Home Page Design



□ Figure 3 – Trading Home Page

3.2 Trading Home Page Functionality

The user receives a brief instructional message and a link to help. This help link is identical to the link that appears in the header

Links to separate areas of Trading are presented in two tables, Stock Trading and Mutual Fund Trading.

The Stock Trading table will contain the following links

- Stock Trading Demo. Opens the Stock Trading Demo (section 11).
- 2. Stock Wizard Demo. Opens the Stock Wizard Demo (section 11).
- 3. Stock Trading. Opens the Stock Trading entry page (section 4).

⁸ Release 1.0 of the site will not have funds trading. Funds appear in Release 1.1.

4. Stock Trading Wizard. Opens the Stock Trading Wizard (section 0).

The Mutual Fund Trading table will contain the following links:

- 1. Fund Trading Demo Link. Opens the Fund Trading Demo (section 11).
- 2. Fund Trading Wizard Demo. Opens the Fund Trade Wizard Demo (section 11).
- Fund Trading. Opens the Fund Trading entry page (section 7).
- 4. Fund Trading Wizard. Opens the Fund Trading Wizard (section 8).

Additional Links are provided on the page as follows:

- 1. Trade Summary Link. Opens the Trade Summary (section 10).
- 2. **Holdings Link**. Opens the Holding page. This page is part of the EDGE already. This link is included as a convenience.
- 3. PAA Account Activity. If the user has a PAA account, this line will appear. It links to a page which estimates the number of trades they have available (section 3.4.4).
- 4. At the bottom of the page will be the standard Edge Trading footer with a link to the Client Service section , and the standard copyright information.

3.3 Trading Notes

3.3.1 Eligible Clients

Trading will only be open to clients with PaineWebber clients with PAA accounts. Each PAA client receives a number of trades based on their asset level. These trades can be performed online.

3.3.2 Commissions

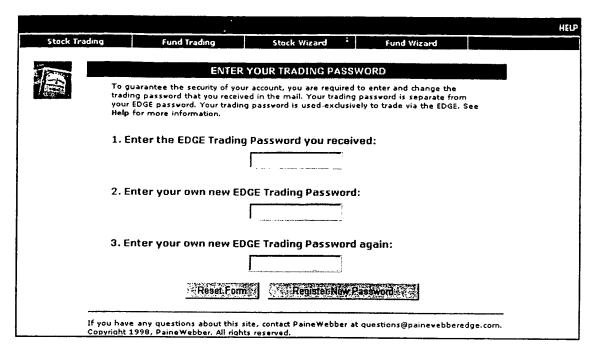
Clients will be able to trade even once their free trades are used up. The commission charged for online trades will be 25% less than the regular commission. The charge will not be reflected on the trade confirm page because of the way PAA accounting is handled by PaineWebber's accounting systems. The charge will not be reflected on the trade confirm page because of the way PAA accounting is handled by PaineWebber's accounting systems.

3.4 Trading Passwords

Or at some other rate determined and controlled by PaineWebber.

¹⁰ For instance, the client's numbers of trades can change when they increase assets, yet this is only reflected quarterly.

3.4.1 Change Initial Password Page



□ Figure 4 – Change Initial Password Page

PaineWebber will assign the user an initial trading password. The first time the user enters EDGE trading they will be required to enter this password and change it to a new one as seen in Figure 4. This is a security measure to protect user account. Thereafter the user will be required to enter their trading password to execute a trade which they will be able to change using the Change Password link on the trading home page (see Figure 3 – Trading Home Page).

The user receives a brief instructional message and a link to help. This help link is identical to the link that appears in the header. Other elements are as follows:

- Enter the Edge Trading password you received: This is a text field. The user is required to enter the
 password they had received from PaineWebber. This is an alphanumeric text field with a maximum of 15 characters. The only allowable characters are letters, numbers, and the underscore character.
- Enter your own new Edge Trading Password: This is a text field. The user is required to enter a new
 password of their choice. This is an alphanumeric text field with a maximum of 15 characters. The only allowable characters are letters, numbers, and the underscore character
- 3. Enter your own new Edge Trading Password again: This is a text field. The user must reenter the password they had entered into the previous field to verify the entry made. This is an alphanumeric text field with a maximum of 15 characters. The only allowable characters are letters, numbers, and the underscore character.
- 4. Reset Form This button will clear all entries that the user has made on the page.
- 5. Change Password Button Pressing this button will register the new password. The data entered will then be validated. If the user has been successful, they will be taken to the trading home page. If not, then they will be taken back to the Change Password page. A message will appear at the top of this page to inform them that the change was unsuccessful, and to retry. If the user attempts to change the assigned password and fails three attempts in a row, then that password will be locked and the user will not be able to submit a trade. An error message will appear informing the user to call PaineWebber to place the order or call the Service Center to have their password either "unlocked", reset, or a have a new password assigned.

3.4.2 Change Password Page

				HELP
Stock Trading	Fund Trading	Stock Wizard	Fund Wizard	
	CHANG	GE YOUR TRADING P	ASSWORD	
一個			s below. See <u>Help</u> for more	
	1. Enter your currer	nt EDGE Trading Pas	ssword:	
			 :	
	2. Enter your new E	DGE Trading Passw	ord:	
	3. Enter your new E	DGE Trading Passw	ord again:	
	Cancel	Register New)	J Pasawoid	
ques	ou have any questions abo stions@painewebberedge.c yright 1998, PaineWebber.	<u>com</u> .	eWebber at	

□ Figure 5 – Change Trading Password Page

This page allows the user to change their existing Edge Trading Password.

3.4.3 Change Trading Password Page Functionality

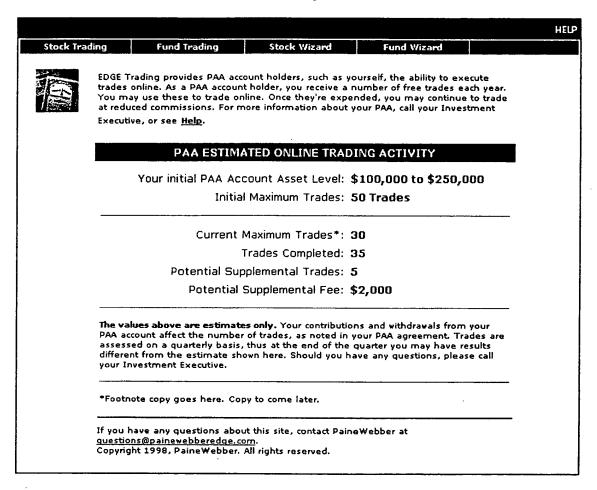
The user receives a brief instructional message and a link to help. This help link is identical to the link that appears in the header. Other elements are as follows:

- Enter your current Edge Trading password: This is a text field. The user is required to enter their current password. This is an alphanumeric text field with a maximum of 15 characters. The only allowable characters are letters, numbers, and the underscore character.
- 2. Enter your new Edge Trading Password: This is a text field. The user is required to enter a new password of their choice. This is an alphanumeric text field with a maximum of 15 characters. The only allowable characters are letters, numbers, and the underscore character
- 3. Enter your own new Edge Trading Password again: This is a text field. The user must reenter the password they had entered into the previous field to verify the entry made. This is an alphanumeric text field with a maximum of 15 characters. The only allowable characters are letters, numbers, and the underscore character.
- 4. Cancel Button The user may cancel entry on this page at any time by pressing the cancel button. The user will be returned to the Trading Home Page.
- 5. Change Password Button Pressing this button will register the new password. The data entered will then be validated. If the user has been successful, they will be taken to the trading home page. If not, then they will be taken back to the Change Password page. The message "Change Password attempt was un-

successful" will appear at the top of the page. If the user attempts to change a password and fails three attempts in a row, then that password will be locked and the user will not be able to submit a trade. An error message will appear informing the user to call PaineWebber to place the order or call the Service Center to have their password either "unlocked", reset, or a have a new password assigned.

6. At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

3.4.4 PAA Account Activity Page - section to be updated by PaineWebber



□ Figure 6 – PAA Account Activity Page

This page displays current PAA Account Activity for the user's PAA Account.

3.4.5 PAA Account Activity Page Functionality -section to be updated by PaineWebber

The data on this page is presented as static text. During the introductory paragraph the user is presented with a link to Help. This link is identical to the Help link in the header.

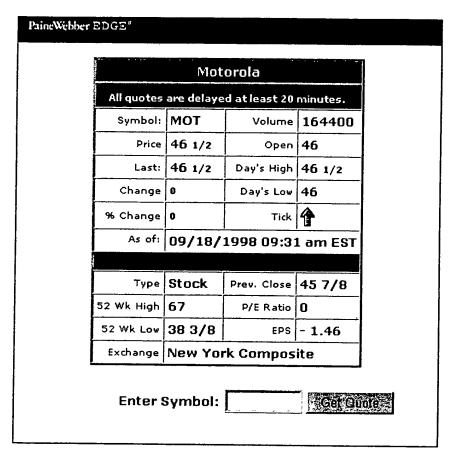
The following data fields are displayed:

- 1. Initial PAA Account Asset Level
- 2. Initial Maximum Trades

- 3. Current Maximum Trades
- 4. Trades Completed
- 5. Potential Supplemental Trades
- 6. Potential Supplemental Fee

Also shown will be a disclaimer regarding the displayed account information.¹¹ At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

3.4.6 Delayed Quote Page



□ Figure 7 - Delayed Quote Page

Stock Trading Page

4.1 Stock Trading Entry Page

Charle Too	d:					HEU
Stock Tra	ding	Fund Trading	Stock V	izard (und Wizard	
元		e trade tab above <u>Ip</u> for more inform	to trade either storation.	cks or mutual fun	ds.	
1 See See See See See	Selec	t Account: ZK	34313			
	Tra	ansaction: 🤄 E	Buy Csell Cs	Sell All Dur	ation: Day 🌋	
		Symbol:		pokup Symbol		
		Shares:	. Ç	(Chinte	asaa j	
		Constraint a su				
		Order Type	Stop Price	Limit Price	Qualifier	
	6	Market			===None=== 3	
	۲۱	_imit			===None===	
	٠,	Stop				
	۲۶	Stop/Limit			===None===	
	Is this t upon in	rormation supplied	t of a recommenda d by Paine Webber o es ? No	tion by your Inve rits employees?	estment Executive or ba	sed
		}∛°©	ancel Order	negrster ss		
	If you h Copyrigi	ave any questions nt 1998, PaineWeb	about this site, ple ober. All rights reser	ase go to the <u>Cli</u> ved.	ent Service area.	· · · · · · · · · · · · · · · · · · ·

☐ Figure 8 – Stock Trading Page 1

4.2 Stock Trading Functionality

- 1. An introductory paragraph includes a link to the appropriate help file for this page. This link is identical to the link presented with the page header.
- 2. Select Account: Drop Down list box. This will be populated with the user's account number(s), from which they make a selection (Note only accounts enabled for Trading will be shown.) If they only have one account this will be the only one shown. Account numbers will be listed in alphanumeric order. The default account number to be shown will be the first that appears in the list alphanumerically.
- 3. **Transaction:** User is presented with three radio buttons from which they must choose from Buy, Sell, or Sell All. There will be no default.
- 4. **Duration:** This is a drop-down list box, which presents the user with additional order qualifiers that they may choose. There is no default for this list box.

- 5. **Symbol: -** This is an alphanumeric text entry field, which allows the user to enter the desired stock symbol. Maximum length of this field will be 12 characters.
- 6. Lookup Symbol This is a button that will open a pop-up window (or link to a separate page dependant on the user's browser capability). The resultant page will present the user with a list of symbols (presented as links) which corresponds to the data entered in the Enter Company Name field. Once the user selects a symbol, they will be returned to the original page, with the chosen symbol now populated within the Enter Stock Symbol field.
- 7. **Get Quote** This is a button, which will open a pop- up window (or link to a separate page dependent on user's browser capability). The resultant page will provide the user with 20 min. delayed Moneynet quote information. [Due to language constraints, the user must enter the symbol on the get quote page.]
- 8. **Shares:** This is a numeric text entry field, which will allow the user to enter the number of shares to be bought or sold. The maximum length of this field will be 10 characters.
- 9. Order: This section of the page provides the user with the ability to enter/choose specific details about their order.
 - Order type The user is presented with four radio buttons from which they must make a choice of Market, Limit, Stop, or Stop Limit order types.
 - Price fields The price fields are alphanumeric text fields that appear next to the corresponding order type button. The user may enter a Limit, Stop, or Stop Limit price within the appropriate text field. The maximum length of this field will be 12 characters and may include a fraction (e.g. 110 1/8). This will be a mandatory field - a price must be entered for these order types.
 - Qualifiers These are drop-down list boxes that will appear within the same line as each of the Order Types. The appropriate qualifiers that will populate each list are dependent on the associated order type.
- 10. **Solicited/Unsolicited trades**. This is a choice of two radio buttons. They have no default. The user is required to indicate whether the trade has been solicited by a PaineWebber IE or by materials or input provided by PaineWebber.
- 11. Cancel Order: This is a button that returns the user to the Trading Home page. Any entries that were made on this page are not stored.
- 12. Next Step: This is a button, which sends the user to the next appropriate page. The data entries made by the user will be checked for completeness of all required fields, and the proper choice of qualifiers and duration as defined within the Valid Trade tables (Figure 10 Listed Equity Valid Trade or Figure 11 OTC Valid Trade). If the data meets the qualifications, the user entered trade data is sent to PaineWebber for a second accuracy check. If it passes, the user is taken to the second page in Stock Trading, the Recap page (section 4.6). If the trade fails, either at PaineWebber or within the browser, the user will receive an appropriate error message (section 13).
- 13. At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

4.3 Stock Trading Qualifiers and Trade Types

This section shows the variables for stock buys and sells. 12 These have been provided by PaineWebber.

	FV 2.5	Definition ::
DAY	Duration	Day
GTC	Duration	Good Till Cancelled
FOK	Duration	Fill Or Kill
IOC	Duration	Immediate Or Cancel
DNR	Execution	Do Not Reduce
DNI	Execution	Do Not Increase
AON	Execution	All Or None
MKT	Price	Market Order
LMT	Price	Limit Order
STP	Price	Stop Order
ST/LM	Price	Stop/Limit Order

□ Figure 9 - Stock Buy/Sell Trade Abbreviation Definitions

Note:

• DAY, GTC, FOK and IOC are mutually exclusive states.

4.4 Listed Equity Valid Trade Table

Duration	Execution	Price	Buy	Sell
DAY		MKT	X	X
DAY		LMT	X	Х
DAY		STP	X	Х
DAY		STP/LMT	X	Х
DAY	AON	LMT	X	Х
GTC		LMT	Х	Х
GTC		STP	X	Х
GTC		STP/LMT	X	Х
GTC	DNR	LMT	X	Х
GTC	DNR	STP	Х	X
GTC	DNR	STP/LMT	Х	Х
GTC	DNI	MKT	Х	X
GTC	DNI	LMT	X	Х
GTC	DNI	STP	Х	Х
GTC	DNI	STP/LMT	Х	X
GTC	AON	LMT	Х	Χ
GTC	AON/DNR	LMT	Х	Х
GTC	AON/DNI	LMT	Х	Х

¹² Additional qualifiers are needed to support short selling, which we are not doing in this release.

FOK	LMT	X	X
IOC	MKT	X	Х
IOC	LMT	X	Х

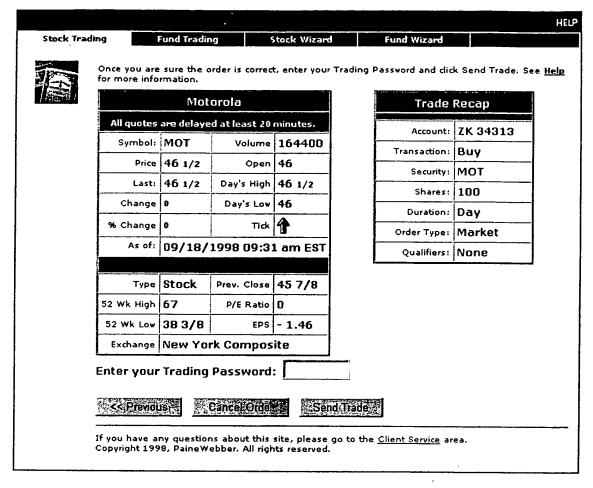
☐ Figure 10 - Listed Equity Valid Trade Table

4.5 OTC Valid Trade Table

Duration	Execution	Price	Buy	Sell
DAY		MKT	X	Х
DAY		LMT	X	Х
DAY		STP	X	Х
DAY	AON	LMT	X	Х
GTC		LMT	X	Х
GTC		STP	X	Х
GTC		STP/LMT	X	Х
GTC	DNR	LMT	Х	Х
GTC	DNR	STP		Х
GTC	DNR	STP/LMT		Х
GTC	DNI	LMT	Х	Х
GTC	DNI	STP	X	Х
GTC	DNI	STP/LMT	Х	Х
GTC	AON	LMT	X	Х
GTC	AON/DNR	LMT	Х	Х
GTC	AON/DNI	LMT	X	Х
FOK		LMT	X	Х
IOC		MKT	Х	Х
IOC		LMT	X	Х

□ Figure 11 - OTC Valid Trade Table

4.6 Stock Trading Recap Page



□ Figure 12 - Stock Trading Recap Page

4.7 Stock Trading Recap Functionality

This is the second page the user sees during trade execution. If the user-entered data from the first page has been verified successful, then they are brought to this page.

An introductory paragraph includes a link to the appropriate help file for this page. This link is identical to the link presented with the page header.

The page will primarily consist of two visual static text tables that appear side by side.

- Real-Time Quote table: The user will be given a real-time quote for the trade symbol they had previously entered. The title field within the box will be the Symbol Description. Additional fields shown will be Symbol, Bid, Ask, Last, and As of. As of will show the date and time of the quote (Y2k compliant date).
- Trade Recap: This table will reiterate the user-entered trade data. The fields to be included are Account #,
 Transaction, Symbol, Shares, Duration, Order Type, and Qualifiers.

Additional elements found on this page are:

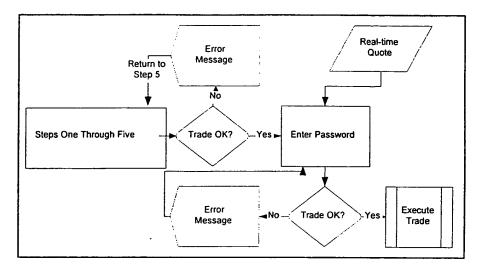
- 1. **Enter your Trading Password:** This is an alphanumeric text entry field that will allow the user to enter their PaineWebber assigned trading password. This field will have a maximum of 15 characters.
- 2. **Previous Step:** This is a button. This allows the user to return to the first page of Stock Trading. All data that had been previously entered into that page will appear in their appropriate fields. The user may then edit and/or resubmit, or cancel at this point.
- 3. **Cancel Order:** This is a button. This gives the user the option to cancel the trade request at this point. The user is then returned to the Trading Home page.
- 4. **Send Trade** This is a button. When pressed, the trade data is sent to PaineWebber for verification and execution. If it fails, the user will receive a message to that effect, if it succeeds, then the trade is executed. Once submitted, it will be posted to the user's Trade Summary page so that it can be seen

The page will also include the standard Edge footer with the email address for user questions, and the standard Copyright information.

5 Stock Trade Wizard

The purpose of the Stock Trade Wizard is to step the user through the process of online trading one step at a time so they can get comfortable with the process. 13

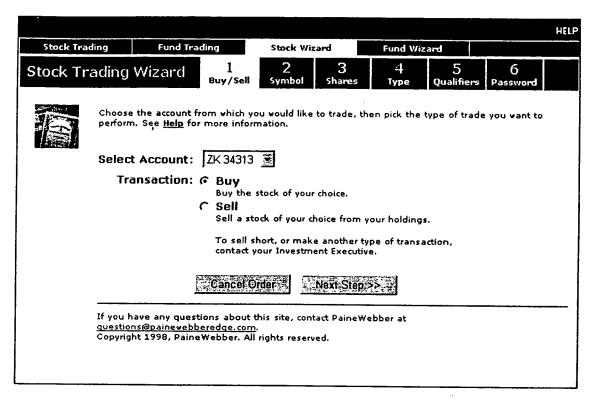
5.1 Stock Trading Wizard Flow Diagram



□ Figure 13 – Stock Trading Wizard Flow Diagram

¹³ Fear of making a "mistake" is a key reason people are hesitant to trade online.

5.2 Stock Trading Wizard Page One - Buy/Sell



□ Figure 14 –Stock Trading Wizard Page 1

5.3 Stock Trading Wizard Page 1 Functionality

- 1. An introductory paragraph includes a link to the appropriate help file for this page. This link is identical to the link presented with the page header.
- Account: Drop Down list box. This will be populated with the user's account number(s), from which they make
 a selection (Note only accounts enabled for Trading will be shown). If they only have one account this will be
 the only one shown. Account numbers will be listed in alphanumeric order. The default account number to be
 shown will be the first that appears in the list alphanumerically.
- 3. **Transaction:** User is presented with three radio buttons from which they must choose from Buy, Sell, or Sell All. There will be no default.
- 4. Cancel Order: This is a button that returns the user to the Trading Home page. Any entries that were made on this page are not stored.
- 5. Next Step: This is a button, which sends the user to the next appropriate page
- 6. At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

5.4 Stock Trading Wizard Page Two - Symbol

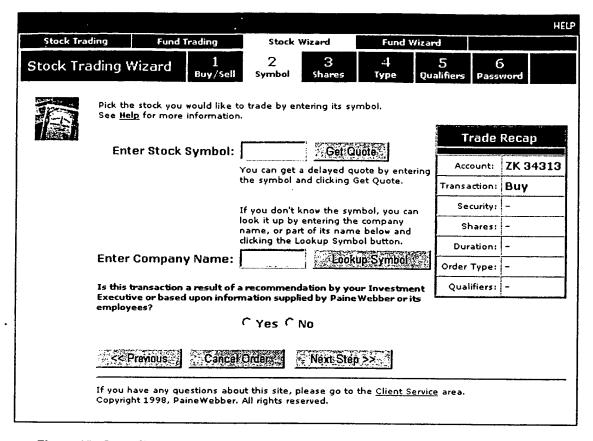


Figure 15 –Stock Trading Wizard Page 2

5.5 Stock Trading Wizard Page 2 Functionality

- 1. An introductory paragraph includes a link to the appropriate help file for this page. This link is identical to the link presented with the page header.
- 2. Enter Stock Symbol: This is an alphanumeric text entry field, which allows the user to enter the desired stock symbol. Maximum length of this field will be 12 characters.
- 3. **Get Quote** This is a button that will open a pop-up window (or link to a separate page dependant on the user's browser capability). The resultant page will provide the user with 20 min. delayed quote information.
- 4. Enter Company Name: This is an alphanumeric text entry field, which allows the user to enter the name of the desired stock for purposes of retrieving the correct symbol. User must use the Lookup Symbol button to retrieve the symbol. Maximum length of this field is 32 characters.
- 5. Lookup Symbol This is a button that will open a pop-up window (or link to a separate page dependant on the user's browser capability). The resultant page will present the user with a list of symbols (presented as links) which corresponds to the data entered in the Enter Company Name field. Once the user selects a symbol, they will be returned to the original page, with the chosen symbol now populated within the Enter Stock Symbol field.

- Solicited/Unsolicited trades. This is a choice of two radio buttons. They have no default. The user is
 required to indicate whether the trade has been solicited by a PaineWebber IE or by materials or input provided by PaineWebber.
- 7. Previous This is a button, which sends the user to the previous page.
- 8. Cancel Order: This is a button that returns the user to the Trading Home page. Any entries that were made on this page are not stored.
- 9. Next Step: This is a button, which sends the user to the next appropriate page
- 10. **Trade Recap** This table will reiterate the user-entered trade data to this point. The fields to be included are Account #, Transaction, Symbol, Shares, Duration, Order type, and Qualifiers.
- 11. At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

5.6 Stock Trading Wizard Page Three - Qualifiers

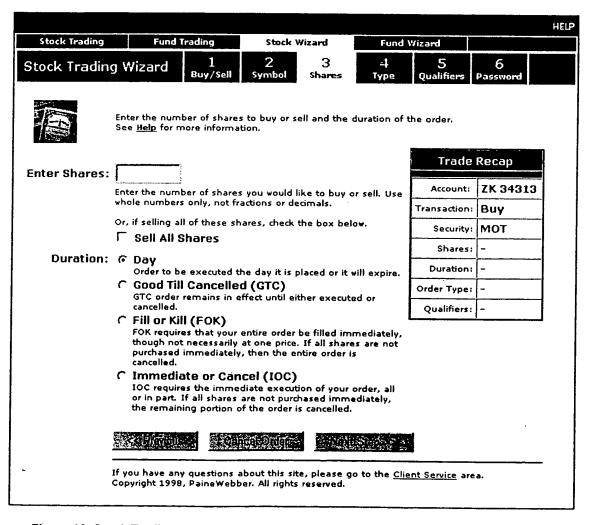


Figure 16 -Stock Trading Wizard Page 3

5.7 Stock Trading Wizard Page 3 Functionality

- 1. An introductory paragraph includes a link to the appropriate help file for this page. This link is identical to the link presented with the page header.
- 2. Previous This is a button, which sends the user to the previous page.
- 3. Cancel Order: This is a button that returns the user to the Trading Home page. Any entries that were made on this page are not stored.
- 4. Next Step: This is a button, which sends the user to the next appropriate page.
- 5. **Trade Recap** This table will reiterate the user-entered trade data to this point. The fields to be included are Account #, Transaction, Symbol, Shares, Duration, Order type, and Qualifiers.
- 6. At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

5.8 Stock Trading Wizard Page Four - Trade Type

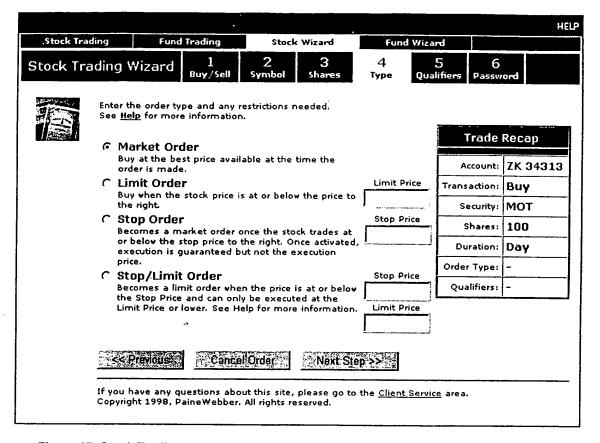


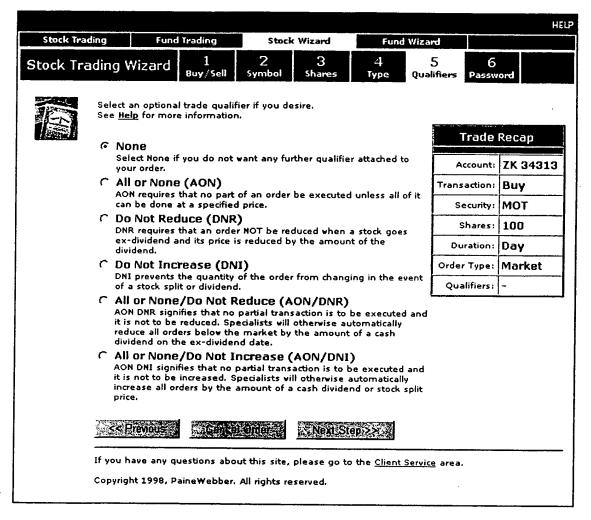
Figure 17 -Stock Trading Wizard Page 4

5.9 Stock Trading Wizard Page 4 Functionality

- 1. An introductory paragraph includes a link to the appropriate help file for this page. This link is identical to the link presented with the page header.
- 2. Order Type The user is presented with four radio buttons from which they must choose or accept the default. The four types are Market, Limit, Stop, and Stop Limit. The default is Market.
- 3. Limit Price, Stop Price, Stop Price and Limit Price These price fields are alphanumeric test fields that appear next to the corresponding order type radio button. The user may enter a price in the appropriate text field. The maximum length of this field will be 12 characters and may include a fraction (e.g. 110 1/8). This will be a mandatory field if the corresponding radio button has been checked a price must be entered for these order types.
- 4. Previous This is a button, which sends the user to the previous page.
- 5. Cancel Order: This is a button that returns the user to the Trading Home page. Any entries that were made on this page are not stored.
- 6. **Next Step**: This is a button, which sends the user to the next appropriate page. **Trade Recap** This table will reiterate the user-entered trade data to this point. The fields to be included are Account #, Transaction, Symbol, Shares, Duration, Order type, and Qualifiers.

7. At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

5.10 Stock Trading Wizard Page Five - Qualifiers



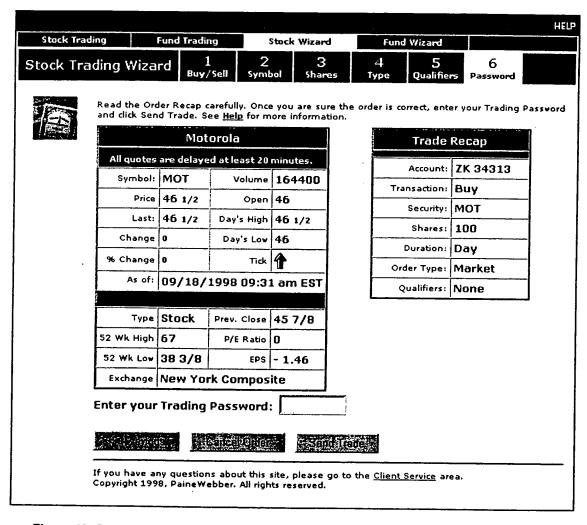
□ Figure 18 -Stock Trading Wizard Page 5

5.11 Stock Trading Wizard Page 5 Functionality

- 1. An introductory paragraph includes a link to the appropriate help file for this page. This link is identical to the link presented with the page header.
- Qualifiers This is a set of 6 radio buttons from which the user must choose or accept the default. The options
 are None, All or None, Do Not Reduce, Do Not Increase, All or None/ Do Not Reduce, All or None/ Do Not Increase
- 3. Previous This is a button, which sends the user to the previous page.
- 4. Cancel Order: This is a button that returns the user to the Trading Home page. Any entries that were made on this page are not stored.

- 5. Next Step: This is a button, which sends the user to the next appropriate page. The data entries made by the user will be checked for completeness of all required fields, and the proper choice of qualifiers and duration as defined within the Valid Trade Tables (see Figure 10 Listed Equity Valid Trade, Figure 11 OTC Valid Trade Table). If the data meets the qualifications, the user entered trade data is sent to PaineWebber for a second accuracy check. If it passes, the user is taken to the second page in the Trade Center, the Recap page (section 4.6). If the trade fails, either at PaineWebber or within the browser, the user will receive an appropriate error message (section 13).
- 6. **Trade Recap** This table will reiterate the user-entered trade data to this point. The fields to be included are Account #, Transaction, Symbol, Shares, Duration, Order type, and Qualifiers.
- 7. At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

5.12 Stock Trading Wizard Page Six - Password



☐ Figure 19 -Stock Trading Wizard Page 6

5.13 Stock Trading Wizard Page 6 Functionality

An introductory paragraph includes a link to the appropriate Help file for this page. This link is identical to the link presented within the page header.

The page will primarily consist of two visual static text boxes that appear side by side:

- Real-Time Quote table: The user will be given a real-time quote for the trade symbol they had previously entered. The title field within the box will be the Symbol Description. Additional fields will be Symbol, Bid, Ask, Last, and As of. As of will show the date and time of the quote (Y2K compliant date).
- 2. **Trade Recap** This table will reiterate the user-entered trade data to this point. The fields to be included are Account #, Transaction, Symbol, Shares, Duration, Order type, and Qualifiers.

Additional elements found on this page are:

- Enter your Trading Password: This is an alphanumeric text entry field that will allow the user to enter their PaineWebber assigned trading password. This field will have a maximum of 15 characters.
- 2. **Previous** This is a button, which sends the user to the previous page.
- Cancel Order: This is a button that returns the user to the Trading Home page. Any entries that were made on this page are not stored.
- 4. **Send Trade**: This is a button. When pressed, the trade data is sent to PaineWebber for verification and execution. If it fails, the user will receive a message to that effect. If it succeeds, then the trade is executed. Once the trade has been submitted it will be posted to the user's Trading Summary page so that it can be seen.
- 5. **Trade Recap** This table will reiterate the user-entered trade data to this point. The fields to be included are Account #, Transaction, Symbol, Shares, Duration, Order type, and Qualifiers.
- 6. At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

6 Stock Order Confirmation Page

Once the user's order has been sent to PaineWebber and processed, they receive an online confirmation. This is *not* a real confirmation; instead it's an online version that simply acknowledges the order has been submitted.



Order Sent!

Thank you for placing your order over the PaineWebber EDGE.

This is not a legal confirmation of your trade. Instead it is a completed recap of your trade. Your actual trade confirmation will be mailed to you, or you can contact your Investment executive for the information.

Use the Sequence number below if you call PaineWebber about this trade. For more information about the data shown here, see <u>Help</u>.

Trade Recap				
EDGE Trade Date/Time 09/18/1998 09:31 am EST				
Reference #:	234232342	234232342		
Account:	ZK 34313 Duraton: Day			
Transaction:	Buy	Order Type:	Market	
Security:	мот	Qualifiers:	None	
Shares:	100	Limit Price:	-	
Executed Price:	46 1/2	Stop Price:	-	

Please go to the Trade Summary page to see the order status



- Trade Summary

Trading Home

If you have any questions about this site, please go to the <u>Client Service</u> area. Copyright 1998, PaineWebber. All rights reserved.

□ Figure 20 -Stock Trading Wizard Order Confirm Page

6.1 Stock Order Confirmation Page Functionality

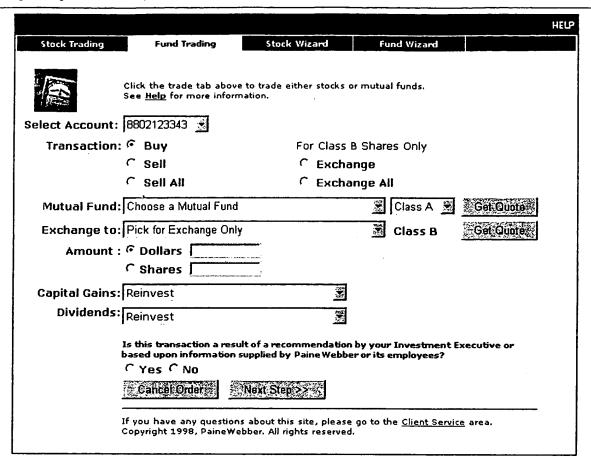
- 1. An introductory paragraph includes a link to the appropriate Help file for this page. This link is identical to the link presented within the page header.
- 2. **Trade Recap** This table will reiterate the user-entered trade data to this point. The fields to be included are Account #, Transaction, Symbol, Shares, Duration, Order type, Qualifiers, Limit Price, and Stop Price.
- 3. New Trade. Returns the user to the first page of the Trade Center or Stock Trading Wizard so a new trade can be executed.
- 4. Trade Summary. Links to the Trade Summary page (section 10)
- 5. Trade Home. Links to the EDGE Trading Home page (section 3.1).
- 6. At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

7 Fund Trading

As with stocks, the Fund Trading is where the user can quickly make fund trades.

7.1 Fund Trading Entry Page

				HELP
Stock Trading	Fund Trading	Stock Wizard	Fund Wizard	
Select Account:	See <u>Help</u> for more inf	ove to trade either stocks or ormation.	r mutual funds.	
Transaction:	€ Buy	For Class B Shares Only	у	
	← Sell	C Exchange		
	C Sell All	C Exchange All		
Mutual Fund:	Choose a Mutual Fu	ınd	Class A	Get QuickQuote
Exchange to:	Pick for Exchange (Only	Z Class B	Get QuickQuote
Amount :	← Dollars ← Sha	ares		
Capital Gains:	Reinvest			-
Dividends:	Reinvest	S		
	information supplied in Yes No	Next Slap	oyees?	kecutive or based upon
	questions@painewebb			



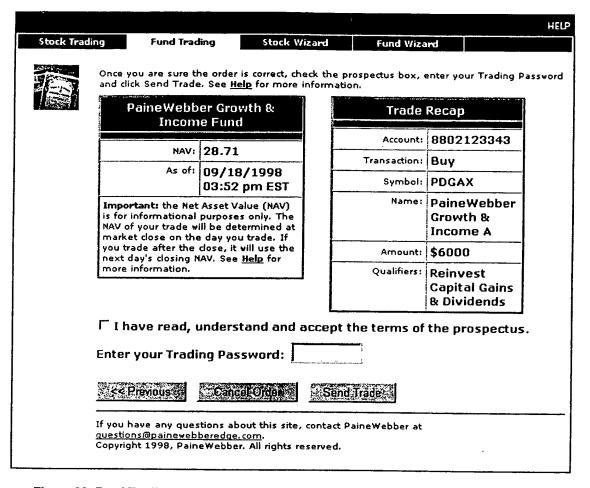
□ Figure 21 -Fund Trading Page 1

7.2 Fund Trading Entry Page Functionality

- 1. An introductory paragraph includes a link to the appropriate Help file for this page. This link is identical to the link presented within the page header.
- 2. Select Account: Drop Down list box. This will be populated with the user's account number(s), from which they make a selection (Note only accounts enabled for Trading will be shown). If they only have one account this will be the only one shown. Account numbers will be listed in alphanumeric order. The default account number to be shown will be the first that appears in the list alphanumerically.
- 3. **Transaction:** A set of radio buttons from which the user must make a choice. The options are Buy, Sell, Sell All, Exchange, and Exchange All. Buy is the default.
- 4. **Mutual Fund** This is a drop down list box, which is populated with the available PaineWebber Funds (see Figure 23 -PaineWebber Fund Table).
- 5. Class This is a drop-down lost box. It has no label and appears to the right of the Mutual Fund drop-down box. Class A is the default.
- 6. Exchange To: This is a drop-down list box, which is populated with the available PaineWebber Funds (see Figure 23 -PaineWebber Fund Table).

- 7. **Get Quote** This is a button that will open a pop-up window (or link to a separate page dependant on the user's browser capability). The resultant page will provide the user with 20 min. delayed Moneynet quote information.
- 8. Amount: This is a choice of two radio buttons. The user may choose either dollars or shares. Dollars is the default.
- Dollars: This is numeric text field. It has no label but appears to the right of the Dollars radio button. User
 may input the dollar amount desired. The field will accept two decimal places. Maximum field length is 12
- 10. **Shares**: This is a numeric text field. It has no label but appears to the right of the Shares radio button. User may input the number of shares desired. Maximum field length is 12.
- 11. Capital Gains: This is a drop-down list box from which the user must choose. The options are Reinvest, Proceeds to Money Market, and Mail proceeds by check. Reinvest is the default.
- 12. **Dividends:** This is a drop-down list box from which the user must choose. The options are Reinvest, Proceeds to Money Market, and Mail proceeds by check. Reinvest is the default.
- 13. **Solicited/Unsolicited trades**. This is a choice of two radio buttons. They have no default. The user is required to indicate whether the trade has been solicited by a PaineWebber IE or by materials or input provided by PaineWebber.
- 14. Cancel Order: This is a button that returns the user to the Trading Home page. Any entries that were made on this page are not stored.
- 15. Next Step: This is a button, which sends the user to the next appropriate page. The data entries made by the user will be checked for completeness of all required fields, and the proper choice of the qualifiers. If the data meets the qualifications, the user entered trade data is sent to PaineWebber for a second accuracy check. If it passes, the user is taken to the next page in Fund Trading, the Recap page. If the trade fails, either at PaineWebber or within the browser, the user will receive an appropriate error message (section 13).
- 16. At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

7.3 Fund Trading Recap Page



□ Figure 22 -Fund Trading Page 2

7.4 Fund Trading Page 2 Functionality

This is the second page the user sees during trade execution. If the user-entered data from the first page has been verified successful, then they are brought to this page.

An introductory paragraph includes a link to the appropriate help file for this page. This link is identical to the link presented with the page header.

The page will primarily consist of two visual static text tables that appear side by side.

- Real-Time Quote table: The user will be given a real-time quote for the fund they had previously chosen. The
 title field within the box will be the Fund Description. Additional fields shown will be Nav, and As of. As of will
 show the date and time of the quote (Y2k compliant date).
- 4. **Trade Recap:** This table will reiterate the user-entered trade data. The fields to be included are Account, Transaction, Symbol, Name, Amount, and Qualifiers.

Additional elements found on this page are:

- 5. I have read, understand, and accept the terms of the prospectus. This is a checkbox. The user must check this box to complete the trade
- 6. **Enter your Trading Password:** This is an alphanumeric text entry field that will allow the user to enter their PaineWebber assigned trading password. This field will have a maximum of 15 characters.
- 7. **Previous Step:** This is a button. This allows the user to return to the first page of the Stock Trade Center. All data that had been previously entered into that page will appear in their appropriate fields. The user may then edit and/or resubmit, or cancel at this point.
- 8. Cancel Order: This is a button. This gives the user the option to cancel the trade request at this point. The user is then returned to the Trading Home page.
- 9. Send Trade. This is a button. When pressed, the trade data is sent to PaineWebber for verification and execution. If it fails, the user will receive a message to that effect, if it succeeds, then the trade is executed. Once submitted, it will be posted to the user's Trade Summary page so that it can be seen. The user is then shown the Order Confirmation page (see Mutual Fund Order Confirmation Page)
- 10. The page will also include the standard Edge footer with the email address for user questions, and the standard Copyright information.

7.5 PaineWebber Funds

Initially the site will allow the sale and purchase of PaineWebber funds only. The design shown in the document is based on that fact. The available funds are shown in a drop-down list where the user makes a choice. A sample is shown below:

i		 	
Mutual Fund:	PW Money Market Fund		
•		 	

7.5.1 PaineWebber Funds

PaineWebber's funds that appear on the EDGE are divided into three families: A, B, and C with each fund appearing in each family.¹⁴

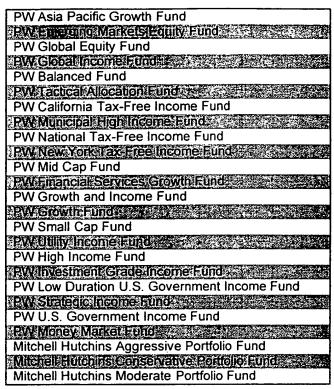


Figure 23 -PaineWebber Fund Table

7.5.2 PaineWebber Fund Classes

The help system will include definitions of the three fund classes so the user can make an educated decision on which to buy or sell. The copy below is from page 4 of PaineWebber's prospectus for the Capital Appreciation fund, and has been edited for inclusion in the EDGE.¹⁵

Class A

The price is the net asset value plus an initial sales charge. Although investors pay an initial sales charge whey they buy Class A shares, the ongoing expenses for this Class are lower than the ongoing expenses of Class B and Class C shares.

Class B

The price is the net asset value. Investors do not pay an initial sales charge when they buy Class B shares. As a result, 100% of their purchase is immediately invested. However, Class B shares have higher ongoing expenses than Class A shares. Depending upon how long they own the shares, investors may have to pay a sales charge when they sell Class B shares. This sales charge is called a "contingent deferred sales charge" and applies when investors sell their Class B shares within six years after purchase. After six years, Class B shares convert to Class A shares, which have lower ongoing expenses and no contingent deferred sales charge.

¹⁴ For instance PW Growth Fund A, PW Growth Fund B, and PW Growth Fund C.

¹⁵ Specific costs have been removed.

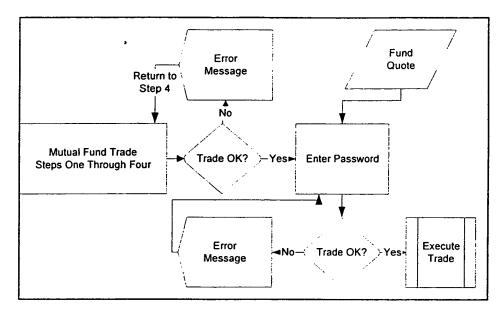
Class C

The price is the net asset value. Investors do not pay an initial sales charge when they buy Class C shares. As a result, 100% of their purchase is immediately invested. However, Class C shares have higher ongoing expenses than Class A shares. A contingent deferred sales charge is charged on shares on shares sold within one year of purchase. Class C shares never convert to any other class of shares.

B Fund Trading Wizard

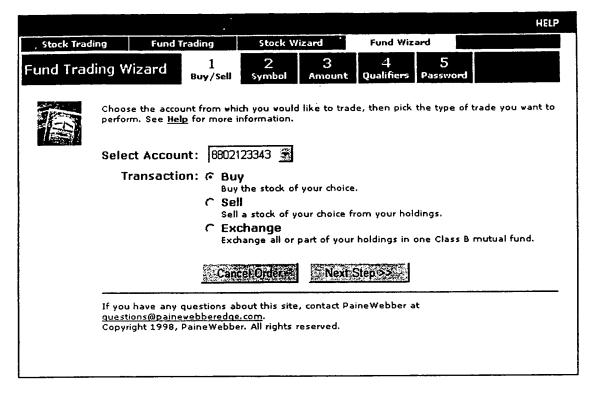
As with the Stock Trade Wizard, the purpose of the Fund Trading Wizard is to get comfortable with the trading process.

8.1 Mutual Fund Trade Wizard Flow Diagram



□ Figure 24 –Fund Trade Wizard Flow Diagram

8.2 Mutual Fund Wizard Page One - Buy/Sell



□ Figure 25 -Fund Trading Wizard Page 1

8.3 Fund Trading Wizard Page 1 Functionality

- 1. An introductory paragraph includes a link to the appropriate Help file for this page. This link is identical to the link presented within the page header.
- 2. Select Account: Drop Down list box. This will be populated with the user's account number(s), from which they make a selection (Note only accounts enabled for Trading will be shown). If they only have one account this will be the only one shown. Account numbers will be listed in alphanumeric order. The default account number to be shown will be the first that appears in the list alphanumerically.
- 3. **Transaction:** A set of radio buttons from which the user must make a choice. The options are Buy, Sell and Exchange All. Buy is the default.
- Cancel Order: This is a button that returns the user to the Trading Home page. Any entries that were made on this page are not stored.
- 5. Next Step: This is a button, which sends the user to the next appropriate page. The data entries made by the user will be checked for completeness of all required fields, and the proper choice of the qualifiers. If the data meets the qualifications, the user entered trade data is sent to PaineWebber for a second accuracy check. If it passes, the user is taken to the next page in the Trade Center, the Recap page. If the trade fails, either at PaineWebber or within the browser, the user will receive an appropriate error message (section 13).
- 6. At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

8.4 Mutual Fund Wizard Page Two - Symbol

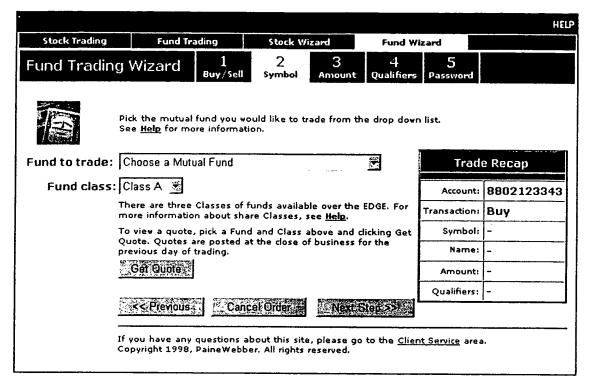


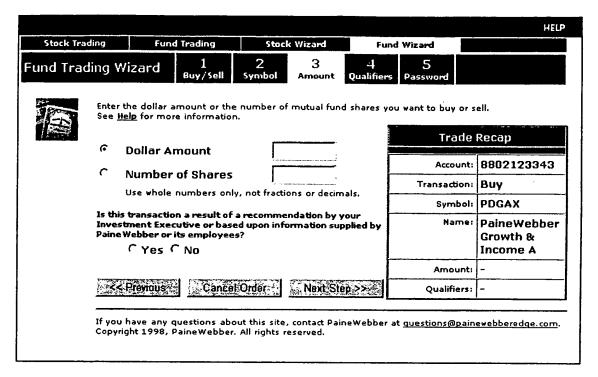
Figure 26 -Fund Trading Wizard Page 2

8.5 Fund Trading Wizard Page 2 Functionality

- 1. An introductory paragraph includes a link to the appropriate Help file for this page. This link is identical to the link presented within the page header.
- Fund to Trade: This is a drop down list box, which is populated with the available PaineWebber Funds (see Figure 23 -PaineWebber Fund Table).
- 3. Fund Class This is a drop-down lost box. It has no label and appears to the right of the Mutual Fund drop-down box. Class A is the default.
- 4. Help This is a link to a help file that explains class funds.
- 5. **Get Quote** This is a button that will open a pop-up window (or link to a separate page dependant on the user's browser capability). The resultant page will provide the user with 20 min. delayed Moneynet quote information.
- 6. Previous This is a button, which sends the user to the previous page.
- 7. Cancel Order: This is a button that returns the user to the Trading Home page. Any entries that were made on this page are not stored.
- 8. Next Step: This is a button, which sends the user to the next appropriate page.
- Trade Recap This table will reiterate the user-entered trade data to this point. The fields to be included are Account, Transaction, Symbol, Name, Amount, and Qualifiers.

10. At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

8.6 Mutual Fund Wizard Page Three - Amount



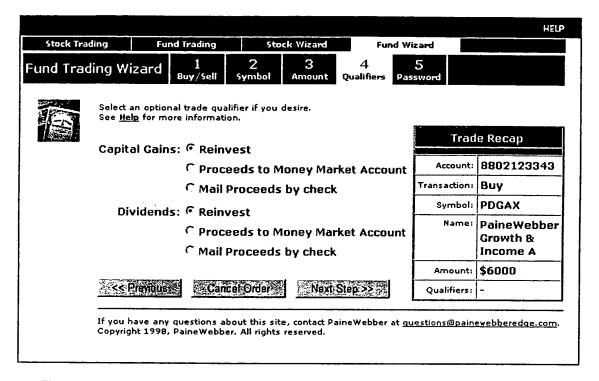
□ Figure 27 -Fund Trading Wizard Page 3

8.7 Fund Trading Wizard Page 3 Functionality

- 1. An introductory paragraph includes a link to the appropriate Help file for this page. This link is identical to the link presented within the page header.
- 2. **Dollar Amount/Number of Shares:** This is a choice of two radio buttons. The user must choose which option to employ or accept the default. The default is Dollar Amount.
- Amount These are numeric text fields. They have no label. Each corresponds to the radio button to their left.
 The Dollar Amount text field will accept two decimal places. The Share text field will accept whole numbers only.
 The maximum length of these fields is 12.
- Solicited/Unsolicited trades. This is a choice of two radio buttons. They have no default. The user is required to
 indicate whether the trade has been solicited by a PaineWebber IE or by materials or input provided by PaineWebber.
- 5. Previous This is a button, which sends the user to the previous page.
- 6. Cancel Order: This is a button that returns the user to the Trading Home page. Any entries that were made on this page are not stored.
- 7. Next Step: This is a button, which sends the user to the next appropriate page.
- Trade Recap This table will reiterate the user-entered trade data to this point. The fields to be included are Account, Transaction, Symbol, Name, Amount, and Qualifiers.

9. At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

8.8 Mutual Fund Wizard Page Four - Qualifiers

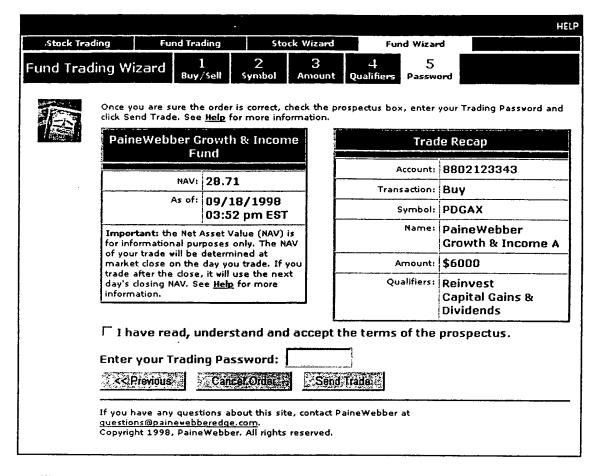


□ Figure 28 -Fund Trading Wizard Page 4

8.9 Fund Trading Wizard Page 4 Functionality

- 1. An introductory paragraph includes a link to the appropriate Help file for this page. This link is identical to the link presented within the page header.
- 2. Capital Gains: This is a set of 3 radio buttons from which the user must choose. The options are Reinvest, Proceeds to Money Market, and Mail proceeds by check. Reinvest is the default.
- 3. **Dividends:** This is a set of 3 radio buttons from which the user must choose. The options are Reinvest, Proceeds to Money Market, and Mail proceeds by check. Reinvest is the default.
- 4. Previous This is a button, which sends the user to the previous page.
- 5. Cancel Order: This is a button that returns the user to the Trading Home page. Any entries that were made on this page are not stored.
- 6. Next Step: This is a button, which sends the user to the next appropriate page.
- Trade Recap This table will reiterate the user-entered trade data to this point. The fields to be included are Account, Transaction, Symbol, Name, Amount, and Qualifiers.
- 8. At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

8.10 Mutual Fund Wizard Page Five - Password



□ Figure 29 -Fund Trading Wizard Page 5

8.11 Fund Trading Wizard Page 5 Functionality

If the user-entered data from the earlier pages has been verified successful, then they are brought to this page.

An introductory paragraph includes a link to the appropriate help file for this page. This link is identical to the link presented with the page header.

The page will primarily consist of two visual static text tables that appear side by side.

- Real-Time Quote table: The user will be given a real-time quote for the fund they had previously chosen. The
 title field within the box will be the Fund Description. Additional fields shown will be Nav, and As of. As of will
 show the date and time of the quote (Y2k compliant date).
- 2. **Trade Recap:** This table will reiterate the user-entered trade data. The fields to be included are Account, Transaction, Symbol, Name, Amount, and Qualifiers.

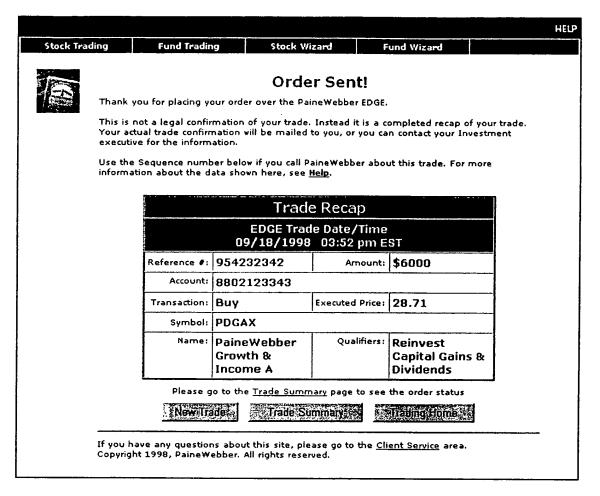
Additional elements found on this page are:

1. I have read, understand, and accept the terms of the prospectus. - This is a checkbox. The user must check this box to complete the trade

- 2. Enter your Trading Password: This is an alphanumeric text entry field that will allow the user to enter their PaineWebber assigned trading password. This field will have a maximum of 15 characters.
- 3. **Previous Step:** This is a button. This allows the user to return to the first page of the Stock Trade Center. All data that had been previously entered into that page will appear in their appropriate fields. The user may then edit and/or resubmit, or cancel at this point.
- 4. Cancel Order: This is a button. This gives the user the option to cancel the trade request at this point. The user is then returned to the Trading Home page.
- 5. Send Trade. This is a button. When pressed, the trade data is sent to PaineWebber for verification and execution. If it fails, the user will receive a message to that effect, if it succeeds, then the trade is executed. Once submitted, it will be posted to the user's Trade Summary page so that it can be seen
- 6. The page will also include the standard Edge footer with the email address for user questions, and the standard Copyright information.

9 Mutual Fund Order Confirmation Page

As with the Stock Trade Confirmation (see Stock Order Confirmation Page), the Fund Confirmation will have the trade information, but it will not be an actual legal confirmation. It has the same design as the Stock Confirmation Page, but uses the mutual fund data fields and links.



□ Figure 30 -Fund Trading Confirm Page

9.1 Fund Order Confirmation Page Functionality

- 1. An introductory paragraph includes a link to the appropriate Help file for this page. This link is identical to the link presented within the page header.
- 2. **Trade Recap** This table will reiterate the order that was placed with PaineWebber. The fields to be included are Reference #, Amount, Account #, Transaction, Executed Price, Symbol, Name, and Qualifiers.
- 3. New Trade. Returns the user to the first page of the Fund Trading Wizard so a new trade can be executed.
- 4. Trade Summary. Links to the Trade Summary page (section 10)
- 5. **Trade Home.** Links to the EDGE Trading Home page (section 3.1).

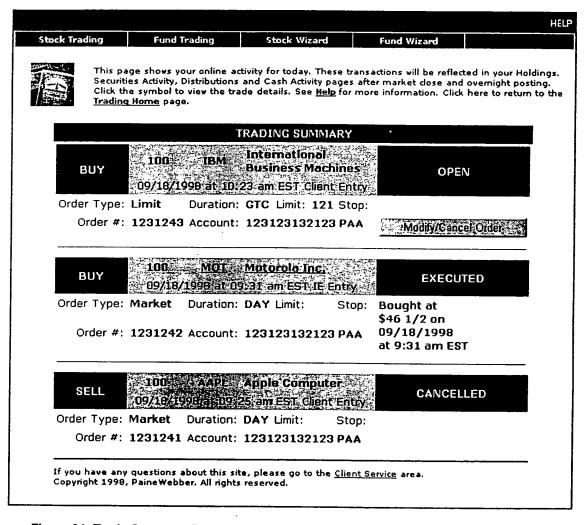
6. At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

10 Trade Summary Page

The purpose of the Trade Summary is to show the trades that the user performed online today. This activity appears here because the other pages on the EDGE (Holdings, Activity, etc.) will not be updated until the evening after the trade is made. The Trade Summary simply shows those activities that are not yet posted.

In addition the Trade Summary lets the user alter trades that have been posted but are not yet executed, or have been partially executed. For instance a limit order. In this case the user will be able to cancel the order or perform a cancel replace.

10.1 Trade Summary Page Design



□ Figure 31 -Trade Summary Page

10.1.1 Trade Summary Functionality

The top of the page will include a brief disclaimer message regarding account information. ¹⁶ Within this wording will be a link to the Help file for this section (same as the link within the header) as well as a link back to the Trading Home page.

¹⁶ Final wording to be approved by PaineWebber.

The Trading Summary content will be a series of tables. The total number of tables that will be seen is dependent on the number of orders placed for the current calendar date. The content will be primarily static text as outlined/defined in Figure 32 –Trade Summary Data Content Definition Table –Stock Trade Detail.

Both the Symbol and Description for the order's equity will be presented as links to the Trade Summary Detail Page (see page number 55). To view the details for a specific order, the user clicks on its symbol or name and is transferred to the appropriate page.

Modify/Cancelbutton appears on trades that are eligible for these actions. This button will take the user to the Modify Order Section. There the user may cancel an entire order, cancel a partial order, or cancel and replace an order.

Trading Home Link. Clicking the Trading Home link returns the user to the Trading Home page (section 3).

Trades can be generated by the client or by the client's Investment Executive. Each trade is labeled as client entered or IE entered. Also, only trades entered by the client will be editable and cancelable; those entered by the IE will not be (these are for display only). The data that appears on IE entered trades will be identical to the Holdings data, plus a status field. The reason we will use this format, at least initially, is that there are other trade-types that appear on Holdings but as of yet will not be available for trading over the EDGE (such as bonds, options, etc.).

Field	Notes and Data
Account	Account number
Account Classification	PAA, etc
Symbol	
Description	
Original Order Entry Date	From the EDGE
Order Entry	Client Entered or IE Entered
Order Status	Status details are on the Detail page
Order Type	LMT, STP, STPLMT, MKT
Order Duration	Day, GTC, FOK, IOC (also called the Order Time in Force)
Order Instruction	Buy, Sell
Order Reference #	7 digits
Limit Price	
Stop Price	
Last Execution Date/Time	Appears if needed
Quantity	
Execution Price	
Cancel Button	Button to cancel the order
Edit Button	Button to edit the order

□ Figure 32 – Trade Summary Data Content Definition Table – Stock Trade Detail

10.1.2 Trade Summary: Fund Data Fields

Field	Notes and Data		
Account	Account number		
Account Classification	PAA, etc		
Fund Name	Fund bought, sold or exchanged from		
Exchange To Name	Appears only on exchange transactions		
Original Order Entry Date	From the EDGE		
Order Entry	Client Entered or IE Entered		
Order Status	Status details are on the Detail page		
Order Instruction	Buy, Sell, Sell All, Exchange, Exchange All		
Order Reference #	7 digits		
Execution Date/Time	Appears if needed		
Price	Only appears on executed orders		
Quantity	Amount in shares		
Execution Amount	Amount in dollars		
Cancel Button	Button appears only during market hours		
Edit Button	Button appears only during market hours		

[□] Figure 34 -Trade Summary Content Definition Table - Fund Trade Detail

HELP

10.2 Trade Detail Page

The user gets to the Trade Detail page by clicking on the link to a trade listed on the Trade Summary. The link will be the security symbol and description. 17

10.2.1 Trade Detail Page Design

Stock Wizard Stock Trading **Fund Trading Fund Wizard** This page shows the full details of each trade. See Help for more information. Click here to



return to the <u>Trading Summary</u> or the <u>Trading Home</u> page.

TRADING DETAIL 100 MOT Motorola Inc. **EXECUTED** 09/18/1998 at 09:31 am EST/IE Entry

Order Type: Market Duration: DAY Limit: Stop:

Order #: 1231243 Account: 123123132123 EDGE: 23423423

PAA

QUANTITY	PRICE	EXECUTION	
Open: 0	Last Price: 46 1/2	Net Money: \$4,650	
Executed: 100	Bid: 46 5/8	Avg. Executed Price: 46 1/2	
Cancelled: 0	Ask: 46 3/8	Order entry 09/18/1998	
Cancel Pend: 0	As of 09/18/1998 09:31am EST	09:31am EST Settlement on 09/18/1998	

	EVENT LIST					
Туре	Action	Symbol	Quantity	Price	Exchange	Date/Time
Execute	Bought	мот	100	46 1/2	NYSE	09/18/1998 09:31am EST
Executer	Bought	MOT	100	46 1/2	NYSE	,09/18/1998 09:28am.EST



If you have any questions about this site, contact PaineWebber at questions@painewebberedge.com. Copyright 1998, PaineWebber. All rights reserved.

□ Figure 35 -Trade Detail Page

10.3 Trade Detail Functionality

¹⁷ Both are used because some securities do not have symbols.

- 1. An introductory paragraph includes a link to the appropriate help file for this page. This link is identical to the link presented with the page header.
- 2. Trading Home Link Clicking the Trading Home link returns the user to the Trading Home page (section 3).
- 3. Trade Summary Link Clicking this link returns the user to the Trade Summary page (section 10.1
- 4. EDIT and CANCEL These are buttons that appear on trades that are eligible for these actions.
- 5. View Original Order and View Replacement Order These are buttons that appear on orders that require these links. For instance, an edited order will have a link to the original.
- 6. At the bottom of the page will be the standard Edge footer with a link to the Client Service section, and the standard copyright information.

10.3.1 Trade Detail Content

YFIELD SEASON SEASON	(Note: analibata) with the second of the sec	
Trading Detail Section:		
Order Instruction	Buy, Sell	
Quantity	The order quantity	
Symbol	The symbol for the equity	
Description	The description of the equity	
Original Order Entry Date	From the EDGE	
Order Entry	Client Entered or IE Entered	
Order Status	Open, Executed, Cancelled	
Order Type	Market, Limit, Stop, Stop/Limit	
Duration	Day, GTC, FOK, IOC	
Limit Price	The price entered during the order entry phase	
Stop Price	The price entered during the order entry phase	
Order#	7 digit order Reference number	
Account	Account number	
Account Classification	PAA, etc	
EDGE	User's EDGE Registration ID	
Quantity Section:		
Open Quantity	Share quantity left open	
Executed Quantity	Share quantity executed	
Canceled Quantity	Share quantity canceled	
Cancel Pend	Share quantity pending cancellation	
Price Section:		
Last Price	Last Price per quote	
Bid	Quote bid	
Ask	Ask bid	
Last Price Date/Time	Date/time of quote	
Execution:	·	
Net Money	Principal amount (quantity x price)	
Average Executed Price	Average Executed Daily Price	
Exchange Order Entry Date	Date/Time the order was logged at the exchange	
Event List:		
Event Type	Execution, Admin, Reject, Bust, Drop, Cancel, GTC Adjustments, etc.	
Event Action	Sold, Bought, UR Out, NC, TLTC, cancel, partial/multiple executions	
Event Symbol	Symbol for the event equity	
Event Quantity	Quantity for the event equity	
Event Price	Price for the event	
Event Exchange	Exchange of the event equity	

Event Date/Time	Date/time for the event	
View Original Order Button	For cancelled orders, links back to the original order. Only appears on the page if needed.	
View Replacement Orders	For replacement orders for cancel operation, links to the replacement order. Only appears on the page if needed.	

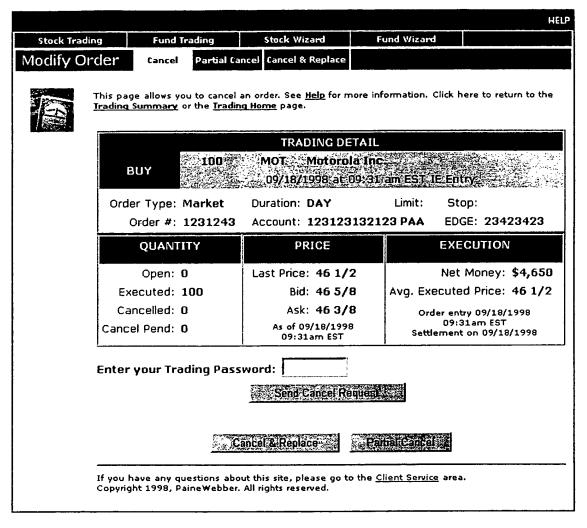
☐ Figure 36 -Trade Detail Page Content Definition Table

10.3.2 Trade Summary Detail: Fund Data Fields

Important: the fund data on the detail page is identical to the data on the summary. Thus, there is no need to create a detail page for mutual fund transactions.

11 Modify/Cancel Order from Trade Summary

11.1 Cancel Order Page

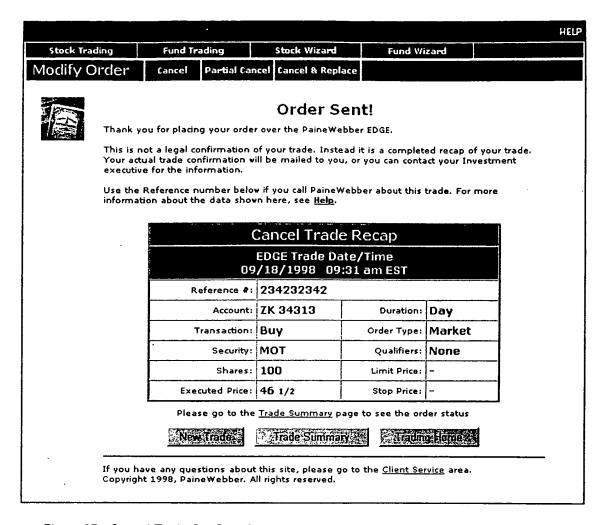


□ Figure 36 -Cancel Order

11.2 Cancel Order Functionality

The user is presented with a trade detail for the original order.. If the use chooses to accept this option, they must enter their trade password and submit. The user also has the option of going to the Partial Cancel or Cancel and Replace section, or choosing to do nothing and return to trading summary or trading home pages.

11.3 Cancel Order Confirmation

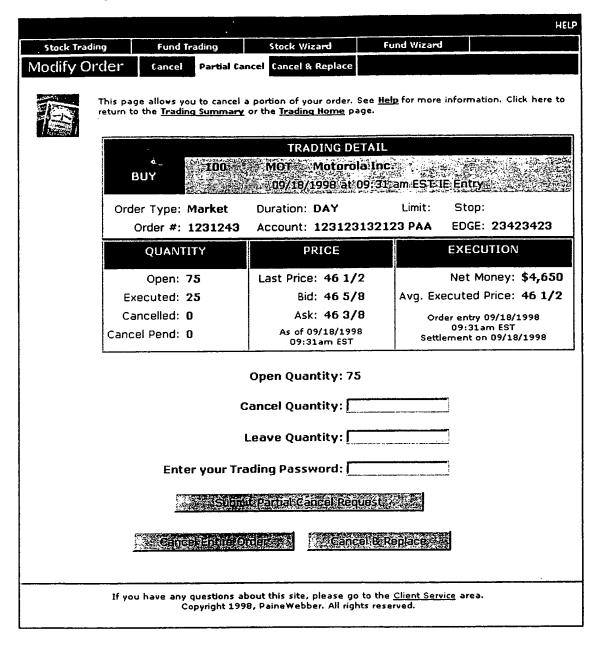


□ Figure 37 - Cancel Trade Confirmation page

11.4 Cancel Order Confirmation Functionality

The functionality and look of this page will be the same as the original Order Confirmation page. A statement has been added to encourage the user to check the Trade Summary page for the order status, and includes a link to that page.

11.5 Partial Cancel Page



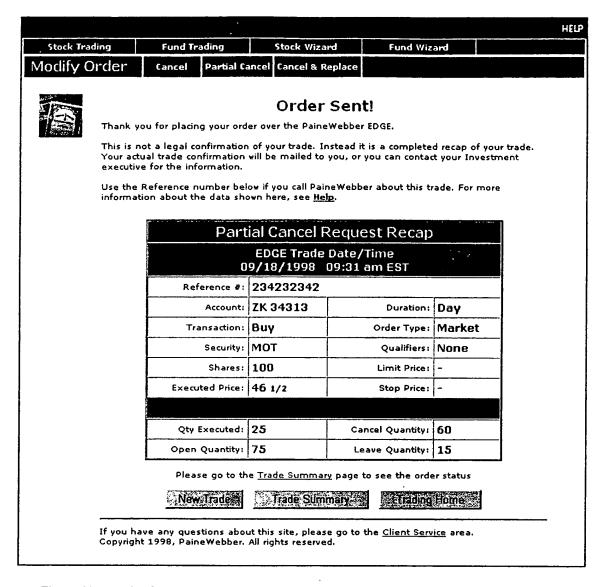
□ Figure 38 - Partial Cancel Page

11.6 Partial Cancel Order Functionality

- 1. Trade Detail table A trade detail of the original order is presented to the user.
- 2. Open Quantity Static text informing the user as to the current Open Quantity on this original order.
- 3. Cancel Quantity Text entry box which allow the user to enter the quantity from the original order that they wish to cancel. The user will not be permitted to enter a quantity higher than or equal to the open quantity.

- 4. Leave Quantity - Text entry box which allow the user to enter the quantity from the original order that they wish to leave active. The user will not be permitted to enter a quantity higher than or equal to the open quantity minus the open quantity.
- 5. **Enter your Trading Password:** This is an alphanumeric text entry field that will allow the user to enter their PaineWebber assigned trading password. This field will have a maximum of 15 characters.
- 6. Submit Partial Cancel Request This is a button, which sends the user to the next appropriate page. The data entries made by the user will be checked for completeness of all required fields. If the data meets the qualifications, the user entered data is sent to PaineWebber for a second accuracy check. If it passes, the user is taken to the Confirmation page. If the trade fails, either at PaineWebber or within the browser, the user will receive an appropriate error message.
- 7. Cancel Entire Order This is a button, which takes the user to the Cancel Order page.
- 8. Cancel & Replace This is a button which takes the user to the Cancel & Replace Page.

11.7 Partial Cancel Confirm



□ Figure 39 - Partial Cancel Confirm

11.8 Partial Cancel Order Confirmation Functionality

The functionality and look of this page will be the same as the original Order Confirmation page, with the following exceptions.

- 1. The opening statement will include verbiage to inform the user that the edited order will appear on the Summary *after* the original order is canceled. If the original order is not cancelable after all, then the edit will not occur. (note: Figure 38 does NOT reflect this verbiage)
- 2. The recap will show the original order and will jnclude fields for Quantity Executed, Open Quantity, Cancel Quantity, and Leave Quantity.
- 3. A statement has been added to encourage the user to check the Trade Summary page for the order status, and includes a link to that page.

11.9 Cancel & Replace Page





This page allows you to cancel the unexecuted portion of your order and send a replacement order. See <u>Help</u> for more information. Click here to return to the <u>Trading Summary</u> or the <u>Trading Home</u> page.

		TRA	DING	DETAIL		
BUY	100	MOT 09/18/	Motor 1998: a	rola/Inc. t-09:31 am/EST	IE Entry	
Order Type:	Market	Duration:	DAY	Limit:	Stop:	

Order #: 1231243 Account: 123123132123 PAA EDGE: 23423423

QUANTITY PRICE EXECUTION Last Price: 46 1/2 Net Money: \$4,650 Open: 75 Bid: 46 5/8 Avg. Executed Price: 46 1/2 Executed: 25 Cancelled: 0 Ask: 46 3/8 Order entry 09/18/1998 09:31am EST As of 09/18/1998 Cancel Pend: 0 Settlement on 09/18/1998 09:31am EST

ENTER	REPLACEMENT ORDER	₹
Account: ZK 34313	ansaction: Buy	* Symbol: MOT:
Duration: Day	Shares:	Gai Cinica

Order Type	Stop Price	Limit Price	Qualifier
೧ Market			===None==
C Limit			===None===
C Stop			===None=== 5
○ Stop/Limit			===None===

Is this transaction a result of a recommendation by your Investment Executive or based upon information supplied by Paine Webber or its employees?

C Yes C No





If you have any questions about this site, please go to the <u>Client Service</u> area.

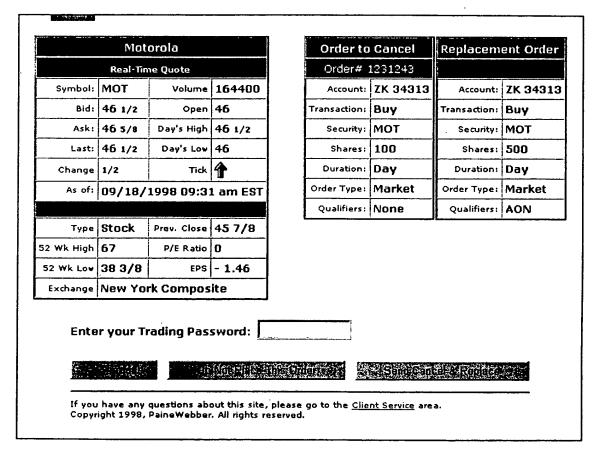
Copyright 1998, PaineWebber. All rights reserved.

□ Figure 40 - Cancel & Replace Page

11.10 Cancel & Replace Functionality

- 1. Trade Detail table A trade detail of the original order is presented to the user.
- 2. **Enter Replacement Order** This section has the same functionality as the original Order Entry page, with the exception that the user may not modify the Account number, the Transaction Type, or the Equity Symbol.
- 3. Next Step This is a button, which sends the user to the next appropriate page. The data entries made by the user will be checked for completeness of all required fields. If the data meets the qualifications, the user entered data is sent to PaineWebber for a second accuracy check. If it passes, the user is taken to the Confirmation page. If the trade fails, either at PaineWebber or within the browser, the user will receive an appropriate error message.
- 4. Cancel Entire Order This is a button, which takes the user to the Cancel Order page.
- 5. Partial Cancel This is a button, which takes the user to the Partial Cancel Page.

11.11 Cancel & Replace Recap Page



□ Figure 41 - Cancel & Replace Recap Page

11.12 Cancel & Replace Recap Functionality

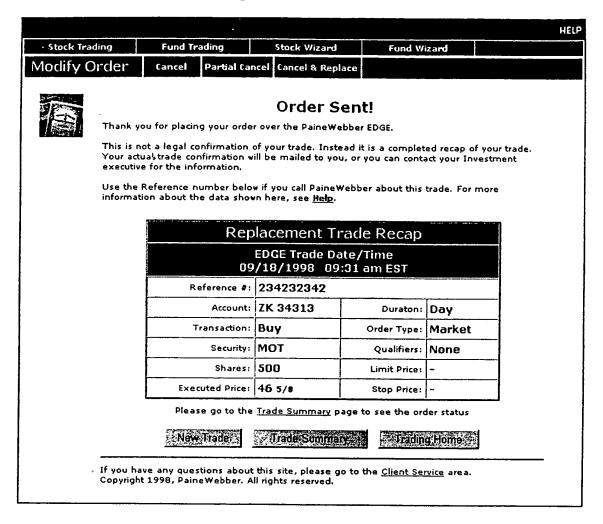
The page will primarily consist of three visual static text tables that appear side by side.

- 5. Real-Time Quote table: The user will be given a real-time quote for the trade symbol they had previously entered. The title field within the box will be the Symbol Description. Additional fields shown will be Symbol, Bid, Ask, Last, Change, Volume, Open, Days High, Days Low, Tick, Security Type, 52 Week High, 52 Week Low, Previous Close, P/E Ratio, EPS, Exchange, and As of. As of will show the date and time of the quote (Y2k compliant date).
- 6. Order to Cancel: This table will reiterate the user-entered trade data for the original Order. The fields to be included are Order #, Account #, Transaction, Symbol, Shares, Duration, Order Type, and Qualifiers.
- 7. **Replacement Order:** This table will reiterate the user-entered trade data for the Replacement Order. The fields to be included are Account #, Transaction, Symbol, Shares, Duration, Order Type, and Qualifiers.

Additional elements found on this page are:

- 11. Enter your Trading Password: This is an alphanumeric text entry field that will allow the user to enter their PaineWebber assigned trading password. This field will have a maximum of 15 characters.
- 12. **Previous Step:** This is a button. This allows the user to return to the first page of Stock Trading. All data that had been previously entered into that page will appear in their appropriate fields. The user may then edit and/or resubmit, or cancel at this point.
- 13. **Do Not Place This Order:** This is a button. This gives the user the option to cancel the trade request at this point. The user is then returned to the Trading Home page.
- 14. Send Cancel & Replace This is a button. When pressed, the trade data is sent to PaineWebber for verification and execution. If it fails, the user will receive a message to that effect, if it succeeds, then the trade is executed. Once submitted, it will be posted to the user's Trade Summary page so that it can be seen

11.13 Cancel & Replace Confirmation Page



□ Figure 42 - Cancel & Replace Confirmation Page

11.14 Cancel & Replace Confirmation Page Functionality

The functionality and look of this page will be the same as the original Order Confirmation page. A statement has been added to encourage the user to check the Trade Summary page for the order status, and includes a link to that page.

12 Demo Pages

There will be demo trades for each type of trading:

- Stock Trade
- Stock Trade Wizard
- Mutual Fund Trade
- Mutual Fund Trade Wizard

The demo pages will be executed using active pages within the site so that the user can walk through the actual trading process - short of making an actual trade. The quotes used in the demo process will be delayed quotes, rather than real-time quotes.

Links to the demo pages are on the Trading Home page (section 3). A link to the demo will appear on the navigation bar for non-Edge Trading clients¹⁸.

13 Error Messages

13.1 When Messages are Triggered

Trading will generate feedback to the user at two times:

- While the trade is being composed. That is, as the user creates the trade by filling in data and making choices on the trade screens. For instance, when the user is using the Stock Wizard there will be error messages available to help correct problems.
- Once the trade is submitted to PaineWebber. When the trade passes from the web-based front-end to PaineWebber's systems the trade will be verified and error messages can be generated.

13.2 Smart Error Checking

The objective of error checking in EDGE trading is to prevent simple errors at the browser, then check for more complex errors at PaineWebber's host system. In any event, the user will receive a "smart" error message that gives direction as to the cause of the error. In some cases this direction will be less explicit due to PaineWebber security and policy requirements.

13.3 Error Types

The following sub-sections will outline the errors and the conditions that trigger them. This document will only outline those errors generated by the Edge2 Trading software and is not inclusive of errors generated by PaineWebber.

13.4 Change Initial/Trading Password Errors

Both pages will supply the same inexplicit message:

Your password change request was unsuccessful. Please retry your change request. If this continues to be a problem, please call the PaineWebber EDGE® Service Center at 1-888-2PW-EDGE.

The service center is open Monday through Friday, 7:30AM - 8PM EST and Saturday through Sunday, 8AM - 4PM EST.

13.5 Stock Trading Entry Page Errors

- 1. Symbol Field Empty You need to supply a symbol.
- 2. Shares Field Empty or a negative number You must enter the number of Shares you wish to trade
- 3. Shares field contains decimals or fractions Decimals and fractions are not permitted in the Shares field for Stock trades
- 4. User has chosen an Order Type of Market, and a Duration other than Day A Market order can only have a duration of Day
- 5. User has chosen a Market Order and entered a Limit Price. You cannot enter a Limit Price for a Market Order.

- 6. User has chosen a Market Order and entered a Stop Price. You cannot enter a Stop Price for a Market Order.
- 7. User has chosen a Limit Order and not entered a Limit Price. You must supply a Limit Price for a Limit Order.
- User has chosen a Limit Order and entered a Stop Price. You cannot enter a Stop Price for a for a Limit Order.
- User has chosen a Limit Order and entered a Limit Price containing decimals Decimals are not permitted in price fields for Stock Trades.
- 10. User has chosen a Stop Order and not entered a Stop Price. You must supply a Stop Price for a Stop Order
- 11. User has chosen a Stop Order and entered a Limit Price. You cannot enter a Limit Price for a Stop Order.
- User has chosen a Stop Order and entered a Stop Price containing decimals Decimals are not permitted in price fields for Stock Trades.
- User has chosen a Stop Order and Duration of FOK You cannot use the FOK or IOC qualifiers with a Stop Order
- User has chosen a Stop Order and Duration of IOC You cannot use the FOK or IOC qualifiers with a Stop Order.
- 15. User has chosen a Stop/Limit Order and not entered a Limit Price. You must supply a Limit Price for a Stop/Limit Order.
- 16. User has chosen a Stop/Limit Order and not entered a Stop Price. You must supply a Stop Price for a Stop/Limit Order.
- 17. User has chosen a Stop/Limit Order and entered a Limit Price containing decimals Decimals are not permitted in price fields for Stock Trades.
- 18. User has chosen a Stop/Limit Order and entered a Stop Price containing decimals Decimals are not permitted in price fields for Stock Trades.
- 19. User has chosen a Stop/Limit Order and Duration of FOK You cannot use the FOK or IOC qualifiers with a Stop Order.
- 20. User has chosen a Stop/Limit Order and Duration of IOC You cannot use the FOK or IOC qualifiers with a Stop Order.
- 21. User has chosen a Buy transaction, with an order type of Stop/Limit and entered a Stop Price greater than the Limit Price. —Stop/Limit Buy Transactions must have a Limit Price that is greater than or equal to the Stop Price.
- 22. User had chosen a Sell Transaction, with an order type of Stop/Limit and entered a Limit Price greater than the Stop Price Stop/Limit Sell Transactions must have a Limit Price that is less than or equal to the Stop Price.

13.6 Stock Trading Recap Page Errors

Errors will be generated should the user input invalid information, or not supply information within a mandatory field. The conditions that will trigger an error and the messages that will be supplied are:

User enters an incorrect trading Password - The password you have entered is incorrect. Please enter a valid password.

13.7 Stock Trading Wizard Errors

- Symbol Field Empty- you need to supply a symbol.
- 2. Shares Field Empty or a negative number You must enter the number of Shares you wish to trade
- Shares field contains decimals or fractions Decimals and fractions are not permitted in the Shares field for Stock trades
- User has chosen an Order Type of Market, and a Duration other than Day A Market order can only have a duration of Day
- 5. User has chosen a Market Order and entered a Limit Price. You cannot enter a Limit Price for a Market Order.
- 6. User has chosen a Market Order and entered a Stop Price. You cannot enter a Stop Price for a Market Order.
- 7. User has chosen a Limit Order and not entered a Limit Price. You must supply a Limit Price for a Limit Order.
- User has chosen a Limit Order and entered a Stop Price. You cannot enter a Stop Price for a for a Limit Order.
- 9. User has chosen a Limit Order and entered a Limit Price containing decimals Decimals are not permitted in price fields for Stock Trades.
- 10. User has chosen a Stop Order and not entered a Stop Price. You must supply a Stop Price for a Stop Order
- 11. User has chosen a Stop Order and entered a Limit Price. You cannot enter a Limit Price for a Stop Order.
- 12. User has chosen a Stop Order and entered a Stop Price containing decimals Decimals are not permitted in price fields for Stock Trades.
- User has chosen a Stop Order and Duration of FOK You cannot use the FOK or IOC qualifiers with a Stop Order
- 14. User has chosen a Stop Order and Duration of IOC You cannot use the FOK or IOC qualifiers with a Stop Order.
- 15. User has chosen a Stop/Limit Order and not entered a Limit Price. You must supply a Limit Price for a Stop/Limit Order.
- User has chosen a Stop/Limit Order and not entered a Stop Price. You must supply a Stop Price for a Stop/Limit Order.
- 17. User has chosen a Stop/Limit Order and entered a Limit Price containing decimals Decimals are not permitted in price fields for Stock Trades.
- 18. User has chosen a Stop/Limit Order and entered a Stop Price containing decimals Decimals are not permitted in price fields for Stock Trades.
- User has chosen a Stop/Limit Order and Duration of FOK You cannot use the FOK or IOC qualifiers with a Stop Order.

- 20. User has chosen a Stop/Limit Order and Duration of IOC You cannot use the FOK or IOC qualifiers with a Stop Order.
- 21. User has chosen a Buy transaction, with an order type of Stop/Limit and entered a Stop Price greater than the Limit Price. Stop/Limit Buy Transactions must have a Limit Price that is greater than or equal to the Stop Price.
- 22. User had chosen a Sell Transaction, with an order type of Stop/Limit and entered a Limit Price greater than the Stop Price Stop/Limit Sell Transactions must have a Limit Price that is less than or equal to the Stop Price.

13.8 Stock Order Confirmation Page Errors

No Edge2 software errors are generated on this page.

13.9 Fund Trading Entry Page Errors

Errors will be generated should the user input invalid information, or not supply information within a mandatory field. The conditions that will trigger an error and the messages that will be supplied are:

- 1. Mutual Fund Field Empty You must choose a fund you wish to trade.
- 2. User has chosen Dollars for a buy or sell transaction but the Amount field is empty You must supply a dollar amount that you wish to trade.
- 3. User has chosen Shares for a buy or sell transaction but the Amount field is empty You must enter the number of Shares you wish to trade.
- 4. Amount field is a negative number You must enter a valid number in the Amount field.
- 5. User has chosen Sell All and entered a share amount in the Amount field You cannot specify a share amount with a Sell All transaction.
- 6. User has chosen Exchange All and entered a share amount in the Amount field You cannot specify a share amount with an Exchange All transaction.
- User has chosen Exchange All but the Exchange Field is empty You must specify an Exchange To fund.
- User has not made a choice for the Solicited/Unsolicited field You must answer the transaction recommendation question.

13.10 Fund Trading Recap Page Errors

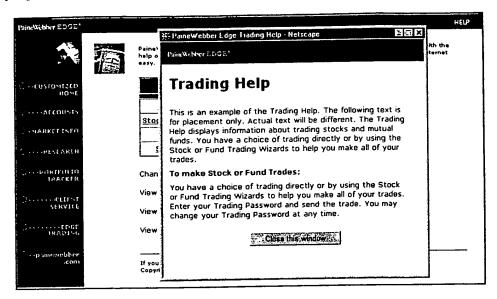
- 1. User has not checked the prospectus statement box. You have not checked the prospectus statement box. You may not complete the trade unless you agree to this statement.
- 2. User had not entered a trading password You must supply your trading password.
- 3. User has entered an incorrect trading password The password you have entered is incorrect. Please enter a valid password.

13.11 Fund Trading Wizard Errors

- 1. Mutual Fund Field Empty You must choose a fund you wish to trade.
- 2. User has chosen Dollars for a buy or sell transaction but the Amount field is empty You must supply a dollar amount that you wish to trade.
- User has chosen Shares for a buy or sell transaction but the Amount field is empty You must enter the number of Shares you wish to trade.
- 4. Dollar Amount field is a negative number You must enter a valid number in the Amount field.
- 5. Share Amount field is a negative number You must enter a valid number in the Amount field.
- 6. User has not made a choice for the Solicited/Unsolicited field You must answer the transaction recommendation question.
- 7. User has not checked the prospectus statement box. You have not checked the prospectus statement box. You may not complete the trade unless you agree to this statement.
- 8. User had not entered a trading password You must supply your trading password.
- 9. User has entered an incorrect trading password The password you have entered is incorrect. Please enter a valid password.

14 Help System

14.1 Help System



□ Figure 43 - Help Page

14.2 Help System Content

EDGE trading will need a help system, which should consist of the following:

- Glossary of Terms. Every term that appears within the trading section will be defined. The terms will appear
 in a pop-up help box. When the user clicks a term the help window opens to that position. These will also be
 an index of all terms.
- 2. Process Help. There will also be a simple "how to" help for each trading page. This is separate from the Glossary of Terms and will be implemented in a separate window.
- Frequently Asked Questions (FAQ). Reality recommends that a FAQ page be created for both fund and stock trading. The content is to be determined, but the objective is to cut down on the tech support calls that trading will engender.

14.3 Help System Authoring

Help will need to be authored by a joint Reality-PaineWebber team, as was done in the original EDGE release. The tasks, schedule, and team members are to be determined.